

Work Order ID 56629

March 3, 2010 8:14:55 AM



Page 1

Item ID: D212-664-207TRN

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Turning Detail

Start Date: 03/03/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 08/03/2010 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: *PL*

Date: *10-3-03* Tooling:

Date:

QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D212-664-247	Rev B
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100



Mori Seiki

Mori Seiki CNC Lathe Large

MORI SEIKI CNC LATHE LARGE

0.00

Memo

0.00

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA706
2-Turn first side as per Folio FA706
3- File transition lines smooth.

ANM / MB (X) MB 10-02-10

110



QC

Quality Control

QC1- Inspect dimensions to dimension sheet

0.00

Memo

0.00

ANM / MB (X) MB 10-03-10

120



Mori Seiki

Mori Seiki CNC Lathe Large

MORI SEIKI CNC LATHE LARGE

0.00

Memo

0.00

1-Turn second side as per Folio FA706
2- File transition lines smooth.
3-Remove sand and plugs

ANM / MB (X) MB 10-03-10

Work Order ID 56629

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Page 2

Item ID: D212-664-207TRN

Accept

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Start Date: 03/03/2010 Start Qty: 1.00

Required Date: 08/03/2010 Req'd Qty: 1.00

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130



QC

Quality Control

QC1- Inspect dimensions to dimension sheet

0.00

Memo

0.00

AWM / MB

④

2

MB

10-03-10

140



QC

Quality Control

QC8- Inspect parts - second check

0.00

Memo

0.00

S 10/03/17

④

150



HandFXtube

Hand Finishing Crosstubes

Crosstubes Chemical Conversion

0.00

Memo

0.00

④

④

MB

10-03-17

Work Order ID 56629

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Page 3

Item ID: D212-664-207TRN

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Turning Detail

Start Date: 03/03/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 08/03/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC

QC3- Inspect Part Finish

0.00

Quality Control

Memo

0.00

G.M. 10 - 03 - 17 (1)

170



Packaging

Packaging

0.00

Memo

0.00

Packaging

Identify and stock in kanban rack
Location: *X-tube cel*

(14) 10 03-17

180



QC

QC21- Final Inspection - Work Order Release

0.00

Quality Control

Memo

0.00

10/03/17 (1)

mk

10-3-17

Picklist Print

March 3, 2010 8:14:59 AM

Page 1

Work Order ID: 56629



Parent Item: D212-664-207TRN



Parent Item Name: Crosstube Turning Detail

Start Date: 03/03/2010

Required Date: 08/03/2010

Comments: IPP Rev:A New Issue 08-03-06 DD verified by:ec
IPP Rev B 08.04.02 Removed polish EC verified DD

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6008-132		Manufactured	No			110	Each	8.0000	1.0000			



Crosstube extrusion



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

50892

8

8

AWM 10-3-09

DART AEROSPACE LTD		Work Order:	50629
Description: Crosstube Assembly (205/212 Low Aft)		Part Number:	D212-664-247
Inspection Dwg: D212-664-247 Rev: <i>1B 7/10/03-09</i>		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.438	+/-0.010	<i>0.438</i>	<i>✓</i>		
	2.680	+0.005/-0.000	<i>2.682</i>	<i>✓</i>		
	2.680	+0.005/-0.000	<i>2.683</i>	<i>✓</i>		
	2.687	+0.005/-0.000	<i>2.687</i>	<i>✓</i>		
	2.802	+0.005/-0.000	<i>2.805</i>	<i>✓</i>		
	2.906	+0.005/-0.000	<i>2.908</i>	<i>✓</i>		
	3.009	+0.005/-0.000	<i>3.009</i>	<i>✓</i>		
	3.112	+0.005/-0.000	<i>3.117</i>	<i>✓</i>		
	3.250	+0.005/-0.000	<i>3.250</i>	<i>✓</i>		
SIDE B	0.438	+/-0.010	<i>0.438</i>	<i>✓</i>		
	2.680	+0.005/-0.000	<i>2.682</i>	<i>✓</i>		
	2.680	+0.005/-0.000	<i>2.682</i>	<i>✓</i>		
	2.687	+0.005/-0.000	<i>2.691</i>	<i>✓</i>		
	2.802	+0.005/-0.000	<i>2.806</i>	<i>✓</i>		
	2.906	+0.005/-0.000	<i>2.908</i>	<i>✓</i>		
	3.009	+0.005/-0.000	<i>3.013</i>	<i>✓</i>		
	3.112	+0.005/-0.000	<i>3.114</i>	<i>✓</i>		
	3.250	+0.005/-0.000	<i>3.250</i>	<i>✓</i>		
	128.27	+/-0.030	<i>128.27</i>	<i>✓</i>		

Measured by: <i>AWM/MB</i>	Audited by: <i>S</i>	Prototype Approval:	N/A
Date: <i>10-3-10</i>	Date: <i>10/03/12</i>	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	08.11.07	New Issue (P/O D212-664-207)	KJ/EC <i>A</i>	<i>DS</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Item	Qty	Part Number	Description
1	X	D212-664-247	CROSSTUBE ASSEMBLY (205/212 LOW AFT)
2	X	D212-664-247B	CROSSTUBE ASSEMBLY (214 LOW AFT)
3	1	D6008-132	CROSSTUBE
4	2	D2940-1	SUPPORT
5	4	D3595-063-530	RUBBER CUSHION
6	2	D3880-1	CUFF
7	4	MS21920-28	CLAMP (OR MS21920-30)
8	44	CR3212-4-06	RIVET (OR M7885G-4-06)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRONBELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
10	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

GENERAL NOTES:

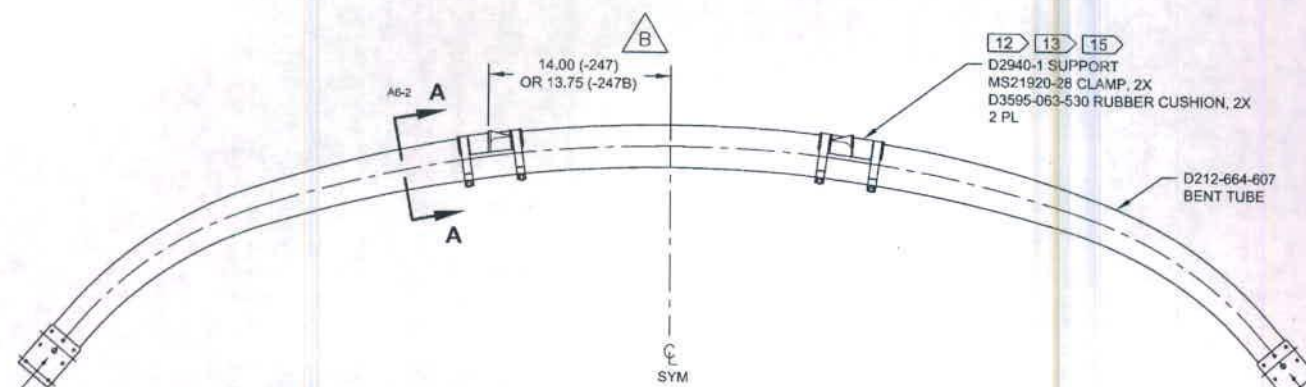
- 1) MATERIAL: MANUFACTURED FROM D6008-132
- 2) FINISH: FINISHED LENGTH 125.25850 020 (BEFORE BENDING/TRIMMING)
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.1
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-247 = 36.6 lbs (PER IIN-D212-664)
D212-664-247B = 36.6 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BLEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BLAND NO D.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 11) LIQUID RESIN D.D. INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORTS USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR 30) D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. THESE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE INSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 16) INSTALL D3880-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 17) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

SHOP COPY
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 54629
BJ 10-3-03

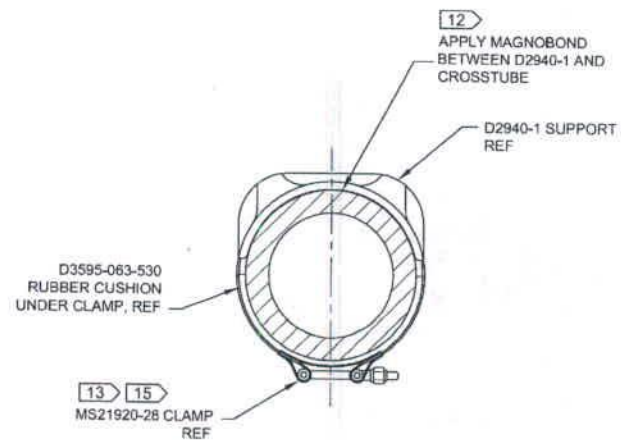
RELEASED
2009-10-79

B	REVISE GENERAL NOTES/PART LIST, UPDATE TO CURRENT STANDARDS; ADD -247B (214 LOW AFT)	RF	09-09-30
A	NEW ISSUE	CP	07-07-07
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.09.30		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. B
DRAWING NO. D212-664-247	SHEET 1 OF 4
TITLE CROSSTUBE (205/212 LOW AFT)	SCALE NTS
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D212-664-247/-247B
ASSEMBLY DETAIL B

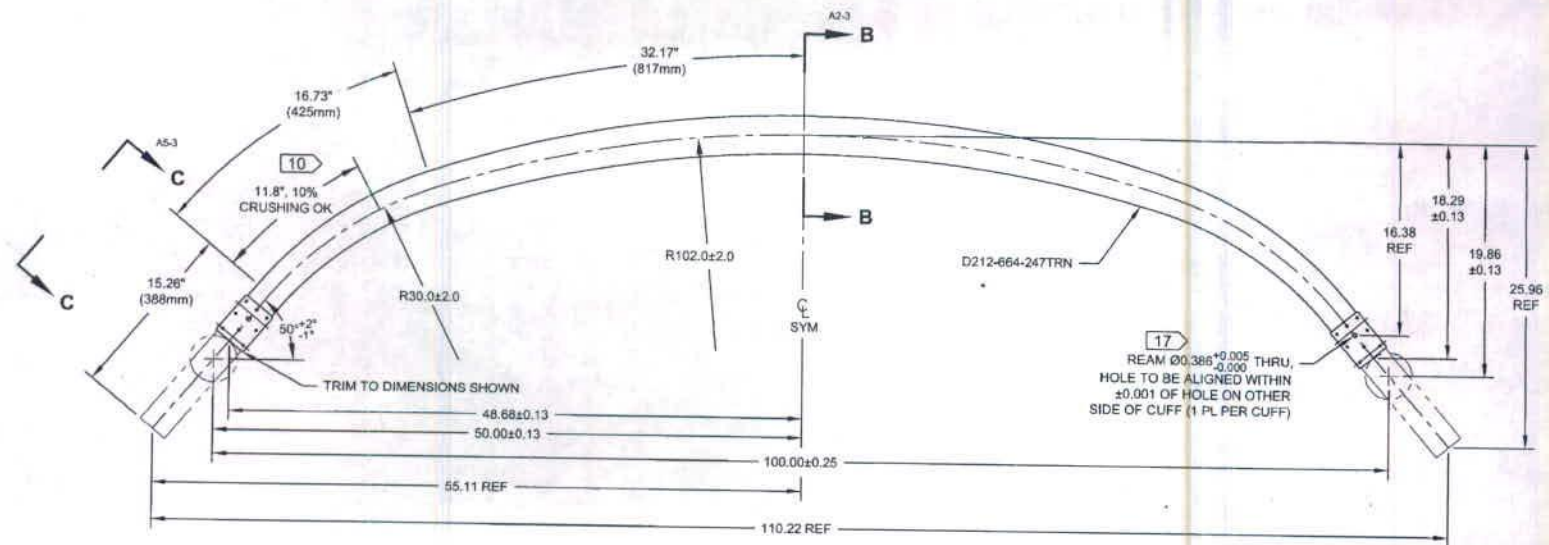


SECTION A-A D6-2
SCALE 4X

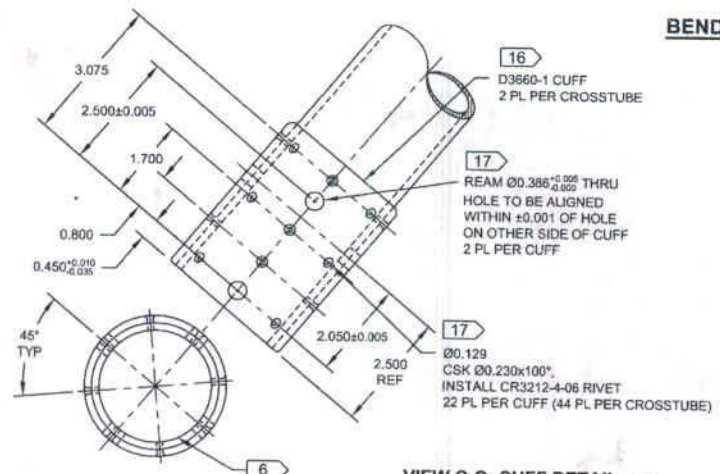
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w/o 56629

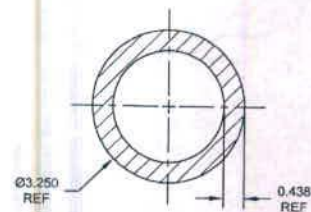
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DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D212-664-247	SHEET 2 OF 4
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DE APPR.	RF	CROSSTUBE (205/212 LOW AFT)	NTS
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D212-664-607
BENDING AND DRILLING DETAIL



VIEW C-C: CUFF DETAIL D7-3
 SCALE 4X



SECTION B-B D4-3
 SCALE 4X

RELEASED
 2009-10-29

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CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D212-664-247	SHEET 3 OF 4
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DE APPR.	RF	CROSSTUBE (205/212 LOW AFT)	NTS
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